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THE RATIONALE OF A NEW VISUAL LINGUISTIC APPROACH.

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THE CONTENT OF THE VISUAL-LANGUAGE READING SERIES WHICH CAPITALIZES ON THE COPY MACHINE, OVERHEAD PROJECTOR, AND TRANSPARENCIES IS EXAMINED. THE RATIONALE IS BUILT AROUND THE MINIMIZING OF INITIAL DIFFICULTIES IN LEARNING TO READ, CONTROLLING THE EARLY FORMATION OF DESIRED READING AND WORD-ATTACK HABITS, MEETING A WIDE RANGE OF INDIVIDUAL DIFFERENCES, AND HEIGHTENING THE REACHERS EFFECTIVENESS AND POSITION. INITIAL DIFFICULTIES ARE MINIMIZED BY 1 TO 1 LETTER SOUND RELATIONSHIPS, EXTENSIVE REINFORCEMENT OF THOSE RELATIONSHIPS, INTRODUCTION OF SIGHT WORDS MOST LIKELY TO BE MET IN SUPPLEMENTARY MATERIAL, AND BUILDING OF A MORE EXTENSIVE SIGHT VOCABULARY THAN IS USUAL. DESIRED READING HABITS ARE CONTROLLED BY PROVIDING FOR A STRONG LEFT TO RIGHT ORIENTATION. INDIVIDUAL DIFFERENCES ARE PROVIDED FOR BY A FUSING OF VISUAL, LINGUISTIC, PROGRAMED, AUDITORY, AND CONTEXTUAL METHODS. THE TEACHER SAVES TIME IN MATERIAL PREPARATION, STUDENTS' ATTENTION IS CONTROLLED, AND EYE CONTACT IS MAINTAINED WITH THE CLASS. THIS PAPER WAS TO BE DELIVERED AT THE INTERNATIONAL READING ASSOCIATION (MAY 4, 1967) (BK)

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The Rationale of a New Visual Linguistic Approach

The entire January 1967 issue of the Phi Delta Kappan focuses attention on the imminent impact on education of big business and emerging technology. According to the editor, this issue is intended to prepare educational leaders--intellectually, institutionally, and politically--to take full advantage of this new opportunity to improve education. In it, there is discussion of such things as computer-assisted instruction, man-machine systems, teaching machines, talking typewriters, video tape, and closed-circuit television.

Within this challenging framework suppose we examine the make-up of the new Visual-Linguistic Reading Series, which capitalizes on such technological advances as the copy machine, overhead projector, and transparencies.

While this series has the usual readers--five for first-grade use--in other respects, with Word-Introducers, Story-Introducers, Programed Texts, Reading and Listening Tests, and a special linguistic structuring, it is unique. The Word- and Story-Introducers, in packet form, are for making transparencies for the overhead projector and have a wide variety of uses. Whenever possible, each new word introduced has a corresponding picture to illustrate its meaning. Each story is also introduced by a full-size picture to stimulate added interest in the reading to follow. Finally, the Programed Texts--four of them--provide added reinforcement for the words and word-sound relationships being learned.

(Paper to be delivered at the International Reading Association Convention, May 4, 1967)

As for rationale, the series is built around four major convictions--that a strong reading program should 1) minimize the initial difficulties in learning to read, 2) control the early formation of desired reading and word-attack habits, 3) meet a wide range of individual differences, and 4) heighten the teacher's effectiveness and position.

Minimizing Initial Difficulties

The first major consideration was to minimize, in so far as possible, the initial difficulties in learning to read. It was felt that initial success, more than anything else, would give added impetus to the pupil's efforts and result in maximum progress.

Unfortunately, the chief difficulty seems to be the English language itself. The beginning reader is faced, for example, with the problem of learning as many as six different pronunciations of the single letter a, as in man, baby, father, away, all, and any. He is faced also with many different spellings of a single word, as with the long a sound, as in great, they, paid, play, veil, gaol, gauge, and eh. Such irregularities pose major learning difficulties.

Some way of imposing more order initially to minimize these troublesome variations should, in theory, facilitate the early efforts markedly. i/t/a attempts to do this with a specially devised alphabet, each symbol having one and only one sound. Twenty entirely new symbols are added to 24 conventional letters, making a total of 44 symbols to represent 44 sounds. Another approach is to use a system of diacritical markings, as most dictionary makers do. Still another approach depends on color-coding. Such systems do establish an orderly one-for-one relationship between symbol and sound. But normal print is neither i/t/a, diacritically marked, nor color-coded; and it is normal traditional orthography that the child must learn to cope with.

In this series, the desired one-for-one relationship was achieved in a different way--using what might be called initial letter values. The words introduced initially were words in which all letters had one and only one sound. This eliminated the need of learning extra symbols or markings and had the advantage of keeping within the natural framework of English orthography.

This necessitated a somewhat different way of thinking. Instead of thinking in terms of word repetitions, the focus in the Visual-Linguistic Series is on the repetition of letter-sound values. Research on retroactive inhibition as well as the recent research by Skinner on extinction points up the crucial nature of this kind of structuring for peak learning efficiency.

For example, in the first book of the Series, Alphy's Cat, of the sixty words introduced, all but four contain a short a. The significant figure is the number of times the regular short a is repeated -- 717 times in the 1,325 words in the first book. Add to that figure the repetitions from the related Word- and Story-Introducers, tests, and programed text and the grand total is 1,787 repetitions. With this approach, the beginning reader faces as simple a task as possible, his response to letters reinforced to the point of being almost automatic.

Once all the regular initial letter values are taught, with sufficient repetitions to make for thorough learning, there remains the problem of simplifying the move into supplementary materials and the eventual handling of the irregularities of the language.

Toward that end, the selection of appropriate irregular sight words seemed of key importance. Such a selection has been based on research involving an analysis of 42 pre-primers and 28 primers, the vocabulary of seven primary reading series, and words of high frequency from four other sources. This insured as close a relationship as possible to other first grade materials, thus facilitating their use.

One other step was taken to simplify the move into other materials. According to a study by Johnson (1) 727 different words were introduced at the first grade level by the entire seven basic reading series studied, only 195 words appearing in five or more of the series. The Visual-Linguistic Series capitalizes on a special linguistic orientation to introduce a vocabulary of over a thousand words, two or three times the size of that of some basic reading series.

In these four ways--by establishing simple one-to-one letter-sound relationships, by providing extensive reinforcement of those relationships, by introducing as sight words those most likely to be met in other materials at this level, and by building a more extensive vocabulary than usual--an attempt was made to minimize early learning difficulties and facilitate the move into supplemental reading materials.

Controlling Habit Formation

A second major consideration in shaping the program was that of controlling the initial steps through use of linguistic structuring with sufficient care to build desirable habits from the very beginning. Every experienced teacher of reading has struggled to correct bad habits that seriously impede a child's progress. These undesirable habits stem largely from the number of extraneous cues that may for a time serve as a basis for successful word discrimination.

For example, if the first words taught happen to be of different length, length automatically tends to become the ingrained basis for subsequent word discriminations. Dr. Arthur Gates mentions that when children are given words, cow, postman, dress, duck, football, and dandelion, length was the most obvious basis for discrimination and the children relied on length for accurate differentiation.

If words of the same length are taught together, pupils are led to lean on other cues--usually some outstanding detail, as the dot over the i in pig or the 'funny cross' in box, the similar beginning and ending in window, and the monkey's tail on the y in monkey, to cite examples given by Gates.

Sometimes a child pays no attention to the word at all, but relies on pure memory for a word, phrase, or entire sentence. One look at a picture, a certain kind of print, or even a spot or smudge and the child has the necessary cue to "read". Durrell tells of a child who read the word children on a flash card but could not read it in a book, insisting he had never seen the word before. When shown the flash card again and asked how he knew the word was children, he pointed to the corner and said, "By that smudge."

Just as the best research demands careful control of all important variables, so it would seem that the best initial reading instruction would demand equally careful control of the child's first learning experiences. Control of the first words taught would seem particularly important since these words play the key role in habit formation.

If they happen to be words of different length, the child is thereby encouraged to depend on length differences. The initial success reinforces and sets such a dependence. But as the child meets more words, he becomes confused and frustrated because length cues are no longer effective. This suggests the desirability of starting with words of the same length, to keep the beginner from developing an initial reliance on an undependable cue.

While this is a step in the right direction, notice the new problem arising. Suppose that pig, box, and man are taught together--all words of the same length. This grouping tends to lead the child to look for a salient detail, perhaps the dot over the i in pig, the funny x at the end of box, or the two humps in the first letter of man.

But dependence on such details also leads to confusion and frustration. They are no help later on, when he must discriminate between pig and big, box and fox, man and men.

Additional controls are needed to build habits of reliance on the most dependable of cues--letter cues, those which can be counted on for most effective word discriminations. For example, if am, at, and an are introduced as a group, obviously length is not going to be very helpful, and since all three begin with the same letter, the child must look at the last letter in each word since that is the only difference, the only basis upon which an accurate discrimination may be made. This kind of controlled word grouping forces more attention on letters, a step in building desired habits.

Notice, however, that such a word grouping forces attention on the last letter of a word. One other matter of particular concern should be built into those first discriminations, based on letter differences--the establishing of strong, positive left-right orientation so important in reading. When salient details are used for cues or when certain letters tend to stand out, unless there is sufficient control, attention is sometimes drawn to the first, sometimes to the middle or sometimes to the end of a word. This tends to keep the child from any particular orientation, and fails to establish the desired left-right orientation.

For that reason, the early word groupings in this Series are such as to demand attention to the first letter, not the middle or last. For example, when bat, rat, mat, cat and sat are introduced as a group, the child must depend on the first letter for his discriminations. The second and third letters are identical. The initial success in those first discriminations, then, reinforces right habits--a left-right orientation as well as a reliance on letters.

When, through chance initial success, a child builds a reliance on extraneous

and undependable cues, teacher and child face two problems, not one--first, the problem of breaking a bad habit; second, the problem of building a right habit to replace it. With sufficient controll, however, it should be possible to build right habits from the very start to insure more rapid progress and less frustration and re-teaching.

Providing for Individual Differences

The third basic consideration was that of providing for a wide range of individual differences. The one generalization most frequently made from the extensive U.S. Department of Education Ist Grade Studies was that "there is no one method of teaching reading." An approach that is best for one student is apparently not always best for another. Some children are more eye-minded than ear-minded; children differ widely in background and interests. In short, a wide variety of individual differences do exist. How best to provide for them?

In this series, an eclectic fusing of five different facets was decided upon in an attempt to deal with such differences--the visual, the linguistic, the programed, the auditory, and the contextual.

Visual. Technological advances in overhead projectors, copy machines, and transparency materials have made possible for the first time a truly visual approach for teaching the visual act of reading. In this Series at the first grade level the alphabet and Word- and Story-Introducers alone provide the teachers and beginning pupils with well over a thousand pictures to facilitate the meaningful fusing of auditory and visual word symbols.

Linguistic. The word groupings used in this series are in line with the findings of linguistic science. The specific ordering of word groups was governed in part by previously mentioned considerations, in part by linguistic considerations designed to facilitate the child's attempt to connect spoken words with their corresponding written forms. When a picture is used to elicit the desired spoken word, the child is thus prepared for the next step--the fusing of oral and visual symbols. In this way the pictures serve to facilitate the connections to be made.

Some research by King and Muehl (2) on different sensory clues as aids indicates that "when words were similar, a picture accompanying the printed words aided in learning it." Weintraub (4) in commenting on this research, writes, "Their findings may have implications for those linguistic programs emphasizing similar spelling patterns. In such programs the words are similar, and illustrations of the words would serve perhaps as an aid in learning rather than as a distracting element."

Furthermore, the linguist's interest in structure, pattern, and intonation is reflected in the Visual-Linguistic Series by suggested classroom activities relative to both Word- and Story-Introducers.

Programed. A programed format is used as part of this series, not to introduce words, but to reinforce both form and meaning. This cuts down measurably on the number of frames needed and, hopefully, results in less possibility of fatigue and loss of interest.

After the stories in the reader are read, the child then turns to his programed text where all the words are used again at least once--both basic and growth words. This puts the words into a different framework and moves the children a step further into more independent effort, a move more easily made after the earlier attention to words as background.

Only in this part of the program are story-related pictures used with reading matter. Here the picture is neither directly above or below the line of print related to it, a fact which minimizes undesirable up-down eye movements. Also, whenever possible, a story thread is used to heighten interest and insure the growth of meaning. Some frames are, in addition, specially designed to facilitate improved word-attack habits, focusing attention on word beginnings or endings.

Auditory. Since it is through the listening channel that children acquire the initial vocabulary that they bring with them to the first grade, and since that channel is for them the most natural and effective, this Series attempts to structure the early learning efforts in reading on a firm listening foundation.

Contextual. Context is the larger pattern which imposes meaning on words. Efforts are made to start the children to develop an awareness of its importance in the very early lessons. Contextual cues, when added to word and letter cues, insure attention to all cues of prime importance in the reading situation.

As can be seen, these five strands, taken together, form a strong language-arts emphasis, with writing, speaking, and listening running parallel with the reading activities.

Enhancing Teacher Effectiveness

The fourth and most important consideration of all is that of enhancing the teacher's effectiveness. The two variables of chief concern in evaluating a reading program are the teacher and the material. Differing opinions exist, however, as to their relative importance. For example, Dr. Durrell, commenting on the U. S. Office of Education First Grade Reading Studies, said, "It is evident from these studies that reading achievement is 4/5ths teacher and 1/5th material." At the other extreme is the position held by Dr. Montessori that "things are the best teachers."

This dichotomy between teacher and material is understandable. The conventional readers, workbooks, recordings, film strips, and movies are by and large in a format that imposes certain limits. Books are bound, the pages following a set order; the same words and pictures are always on the same page. Movies, film strips, and recordings also come in a fixed sequence and cannot be re-ordered by the teacher, even if she wishes to move one scene in a film to an earlier position to achieve a different educational objective.

Every teacher worthy of the name has certainly chafed under such limitations in her attempts to fit material more closely to the immediate classroom situation or individual problems at hand. All too often with this kind of material the teacher must ask, How can I best fit my pupils to the material. But ideally, materials should be fitted to pupils, not pupils to the material.

This Series attempts to bring teacher and material into a new and closer working relationship. Just as a car is subject to the driver's will, so teaching materials should, in so far as possible, be subject to the teacher's own personality and philosophy and permit a closer fitting to the immediate classroom needs and problems.

Obviously, this means a real departure from conventional format--from set pages, set sequences, and set patterns. Two new kinds of materials were developed toward this end--Word-Introducers and Story-Introducers. They come in packet form for use in making transparencies for the overhead projector.

Typically, the Word-Introducers contain four words and four related pictures on a page. When a transparency is made and cut into eight parts, the teacher is then free to use any or all parts in any order, in any way, and in any combination to fit immediate class needs. She may impose whatever order she wants instead of

being bound by someone else's ordering.

To fuse the known oral symbol evoked by a picture with the corresponding visual symbol to be learned is a real advantage. The teacher can go from the picture cue to the written word, then add oral reinforcing. She can go from the written word to the picture or to the spoken word. She can put several letters on the projector stand and ask a child to come up and arrange them below the picture to form the identifying word while the others print the word at their seats.

She can use the Word-Introducers within a broad language arts framework to teach writing, spelling, listening, reading, and speaking. She can tell stories woven around the words and have the children do the same. In short, here are materials which the teacher can actively shape and mold to fit the particular needs of any group or class.

One teacher whose pupils had had trouble with a standardized test, used the Word-Introducers to develop needed insights into the multiple-choice test pattern. She placed a word on the left side of the projector platform and four pictures on the right, one of which matched the word. Another day she changed the format slightly, putting a picture on the left side and four words on the right, one to match the picture. Other variations were to have the children copy down the one word that fits the picture. In this way, as with a game, the children began to think in terms of a common test-type item.

Story-Introducers also lend themselves to the personality and impress of the teacher. While they are expressly designed to whet interest in the stories in the reader, they can also be used for word reviews of various kinds,

class discussion, story telling, either by teacher or children. The list of words can be masked and the children asked to write down as many words as are suggested by things in the picture--seeing who can make the longest list. The teacher can copy a child's list on the copy machine and have the rest of the class read it. Words from the Word-Introducers can also be used with the Story-Introducers.

Even the conventional materials in the series--the readers and workbooks-are so designed that transparencies suitable for class projection can be made from most of the pages and used, if desired, separately or in combination with the other material.

Vocabulary limitations in any first grade reading series pose problems. The first stories are, of necessity, stories in name only because of the tremendous gap at that point between the child's reading and speaking vocabulary. Here, through the use of the Word- and Story-Introducers and appropriate questions over the stories, the teacher can help the children read between the lines and re-tell the stories in an expanded and more natural form, using complete sentences and breaking away from the limitations of their reading vocabulary.

After the initial preparation, savings in preparation time are a real help to the teacher. To put a large amount of material on the board takes time. If that same material is put on transparencies, it can be used again and again, year after year, without further time investment on the teacher's part.

Another advantage is the control of attention. When the chalk-board is filled before the children come in, the teacher is not able to control the attention to the degree desired. The children see the material at once and in entirety. On the

other hand, with transparencies, the teacher can control attention exactly, even to the extent of masking all but the portion--word, phrase, or picture--that she wants to talk about.

In addition, the teacher can keep good eye contact with the class. Eye contact is lost when she turns to write on the board. This is the moment when the distracting action of a few children can have such a disrupting effect on general class attention. If the teacher is facing the class, as when using the projector, she is constantly in control of the situation. Furthermore, she is using a more legible combination: research indicates that black letters on a white background are "14.7 percent more legible" (3) than white letters on a black background.

The characters are drawn so as to provide maximum help for the teacher also. For example, to personalize the teaching of the alphabet, the teacher has little Alphy in hand puppet form -- eager to tell the class all about the letters he has in his bulging bag. To motivate the first reading experience the teacher also has Alphy's help - his cat and word kit taking the center of the stage. This means that when the teacher is ready to introduce the first programed text, Alphy is there to lend his helping hand. He shows the children exactly how to use his Show-and-Tell Tab to keep the answers properly covered.

Canny Cat provides the teacher with material designed to encourage discussion of character traits and behavior. To make the children more aware of the need to listen and build better listening habits, the teacher has Babby-Big-Ear; her ear grows bigger whenever she fails to listen. Finally, Bob's Wish Cap helps the teacher lead easily and naturally into the area of critical reading and reading between the lines.

In short, the Visual-Linguistic Reading Series is based on the assumption that the teacher is indeed the single and most important factor in an effective reading program. It follows that the best materials are thos which best reflect the teacher's own philosophy, experience, and personality and best serve to heighten and enhance her key role in the classroom.

Years ago, Aristotle said, "The fate of a nation rests on the education of its youth." With reading at the very heart of all our educational endeavors, we must leave no stone untumed in our search for the best possible approach to teaching it. This means a willingness to explore and capitalize on any and all technological advances that have strong potential for improving instruction. The overhead projector, copy machine, and transparencies seem particularly promising.

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